



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/528,384

01/03/2006

Fukashi Urakami

KC-1032

7046

77319

7590

10/01/2010

Kubotera & Associates, LLC

200 Daingerfield Rd

Suite 202

Alexandria, VA 22314

EXAMINER

STABLEY, MICHAEL R

ART UNIT

PAPER NUMBER

3611

MAIL DATE

DELIVERY MODE

10/01/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/528,384	Applicant(s) URAKAMI, FUKASHI	
	Examiner Michael R. Stabley	Art Unit 3611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-15 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the second distance being greater than the first distance as claimed in claim 9 must be shown or the feature(s) canceled from the claim(s). The Examiner notes that in the drawings the distances appear to be identical. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 9 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 9 recites the limitation "the sticking force" in line 6. The Examiner notes that there is no reference in the claims to anything related to the suction device. The Examiner also notes that the claims essentially read as: "a moving carrier comprising..." because "to be connected to a negative pressure forming device for supplying a sticking force to the moving carrier, said moving carrier moving on a surface of an object while sticking thereto" is functional language.

5. Claim 9 recites the limitation "the second direction" in line 19. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 5, 6, and 9-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Urakami (U.S. Patent 4,926,957).

Art Unit: 3611

In re claim 5, Urakami discloses a moving carrier that sticks to a surface of an object by use of negative pressure (column 6, lines 53-55), comprising a suction housing (4) connected to a negative pressure forming device (78) to suck in a fluid; a suction opening member (50) installed on the suction housing, a part of which is caused to contact the surface of the object, and which defines a pressure-reduced area together with the suction housing and the surface of the object; a member (158, 160, 164) for maintaining a predetermined distance between the suction housing and the surface of the object; and two sets of moving units, each of the moving units including at least two sets of driving wheels (158 and 164); each of the moving units being arranged on each of its right and left sides relative to its traveling direction (see Figure 2); each of the moving units being connected to a driving source (156); one of the driving wheels (164) being situated in a vicinity of a center of a sticking force acting on the moving carrier; another of the driving wheels (158) being situated away from the center of the sticking force acting on the moving carrier; and wherein the moving carrier can pivot at contact area as a pivot axis, at the contact area one of the driving wheels situated in the vicinity of the center of the sticking force being contacted with the surface, one of the moving units being driven and another moving units being not driven. The Examiner notes that driving wheels 164 are closer to the center of the sticking force than driving wheels 158 and are equally as close to the center of the sticking force as the Applicant's wheels as shown in Figure 1.

In re claim 6, Urakami further discloses comprising a moving process that causes the moving carrier to make transverse movements in its traveling direction; wherein

Art Unit: 3611

actions of the moving carrier being repeated; each of the actions being comprised of a action that the moving carrier pivots at contact area as the pivot axis; at the contact area, one of the driving wheels situated in the vicinity of the center of the sticking force being contacted with the surface; wherein one of the moving units being driven and another moving unit being not driven.

In re claim 9, Urakami discloses a moving carrier to be connected to a negative pressure forming device for supplying a sticking force to the moving carrier, said moving carrier moving on a surface of an object while sticking thereto, comprising a case (4) having an opening portion facing the surface (48) for applying the sticking force relative to the surface, said opening portion having a substantial center point; a first driving device (left side 164) situated on one side of the case relative to the opening portion for moving the case in a first direction, said first driving device contacting with the surface at a first contact area away from a straight line passing through the center point in the first direction by a first distance in a second direction perpendicular to the first direction; a second driving device (right side 158) situated on an opposite side of the case relative to the opening portion for moving the case in a second direction, said second driving device contacting with the surface at a second contact area away from the center point by a second distance greater than the first distance in the second direction; a first drive source for driving the first driving device; and a second drive source for driving the second driving device as described above.

In re claim 10, Urakami further discloses comprising a hose coupler (76) connected to the case so that a hose of the negative pressure forming device is connected to the hose coupler for applying the sticking force (column 4, lines 39-42).

In re claim 11, Urakami further discloses comprising a third driving device (left side 158) situated on the one side of the case for contacting with the surface at a third contact area away from the center point by a third distance greater than the first distance; and a fourth driving device (right side 164) situated on the opposite side of the case relative to the opening portion for contacting with the surface at a fourth contact area away from the center point by a fourth distance smaller than the second distance as shown in Figure 2.

In re claim 12, Urakami further discloses wherein said first drive source is arranged to drive the third driving device, and said second drive source is arranged to drive the fourth driving device.

In re claim 13, Urakami further discloses comprising a first frame (154a) fixed to the case for supporting at least one of the first driving device and the second driving device and a second frame (154b) for supporting the other of the first driving device and the second driving device, said second frame being attached to the case through a hinge pin so that the second frame can swing.

In re claim 14, Urakami further discloses comprising a first frame (154a) fixed to the suction housing for supporting at least one of the moving units and a second frame (154b) for supporting the other of the moving units, said second frame being attached to the suction housing through a hinge pin so that the second frame can swing.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 7, 8, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urakami.

In re claim 7, Urakami discloses a moving carrier that sticks to a surface of an object by use of negative pressure, comprising a suction housing connected to a negative pressure forming device to suck in a fluid; a suction opening member installed on the suction housing, a part of which is caused to contact the surface of the object, and which defines a pressure-reduced area together with the suction housing and the surface of the object; a member for maintaining a predetermined distance between the suction housing and the surface of the object; and two sets of moving units, each of the moving units being arranged on each of its right and left sides relative to its traveling direction; each of the moving units being connected to a driving source as discussed above with regards to claim 5, but does not specifically disclose each of the moving units including a caterpillar; one end portion of the caterpillar being situated in a vicinity of a center of a sticking force acting on the moving carrier; another end portion of the caterpillar being situated away from the center of the sticking force acting on the moving carrier; and wherein the moving carrier can pivot at a contact area as a pivot axis, at the

Art Unit: 3611

contact area the one end portion of the caterpillar situated in the vicinity of the center of the sticking force being contacted with the surface, one of the moving units being driven and another moving units being not driven. It would have been obvious to one having ordinary skill in the art at the time the invention was made to switch drive wheels with an endless track caterpillar since it is known in the art to do so and since the applicant admitted so on page 8 of the specification.

In re claim 8, Urakami further discloses comprising a moving process that causes the moving carrier to make transverse movements in its traveling direction; wherein actions of the moving carrier being repeated; each of the actions being comprised of a action that the moving carrier pivots at contact area as the pivot axis; at the contact area, one end portion of the caterpillar situated in the vicinity of the center of the sticking force being contacted with the surface; wherein one of the moving units being driven and another moving unit being not driven.

In re claim 15, Urakami further discloses comprising a first frame (154a) fixed to the suction housing for supporting at least one of the moving units add a second frame for supporting the other of the moving units, said second frame (154b) being attached to the suction, housing through a hinge pin so that the second frame cad swing.

Allowable Subject Matter

10. Claim 16 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The specific limitations of “wherein said one of the driving wheels is situated closer to the first frame or the second frame than the another of the driving wheels” is not anticipated or made obvious by the prior art of record in the examiner’s opinion.

Response to Arguments

11. Applicant's arguments filed 7/16/10 have been fully considered but they are not persuasive. Applicant argues that wheel 158 and wheel 164 are situated away from the center of the main body by the same distance. The Examiner notes that this is clearly not the case or else wheel 160 and left rear wheel 164 would be directly across from each other in Figure 2. Wheel 158 is clearly further away from the body and therefore right front wheel 164 is situated closer to the center of the main body like the Applicant's wheel. The radial distance from the center of the Applicant's main body to driving wheels 22a and 22b is nearly identical so it is unclear how the Applicant could argue that one is located in the vicinity of the center of the main body and one is not.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 3611

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael R. Stabley whose telephone number is (571)270-3249. The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley D. Morris can be reached on 571-272-6651. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael R Stabley/
Examiner, Art Unit 3611

/LESLEY D MORRIS/
Supervisory Patent Examiner, Art Unit 3611